DAkkS
Deutsche
Akkreditierungsstelle

# Accreditation

The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that

**Helmut Fischer GmbH Institut für Elektronik und Messtechnik**
**Industriestraße 21, 71069 Sindelfingen**

operates a calibration laboratory that fulfills the requirements according to DIN EN ISO/IEC 17025:2018 for those conformity assessment activities specified in detail in the annex listed below. This includes additional existing legal and normative requirements for the calibration laboratory including those in relevant sectoral schemes, provided that these are explicitly confirmed in the annex listed below.

**D-K-15076-01-01** **Valid from: 20.11.2025**

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to the principles of DIN EN ISO 9001.

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate only applies in connection with the notice of 20.11.2025. It consists of this cover sheet, the reverse side of the cover sheet and the corresponding annex .

Registration number of the accreditation certificate: **D-K-15076-01-00**

Berlin, 20.11.2025 Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch | Head of Technical Unit

Translation issued: 20.11.2025

*This accreditation certificate was issued by the Deutsche Akkreditierungsstelle GmbH (DAkkS). It is digital sealed and valid without signature. It reflects the status as indicated by the date of issue. The current status of any valid and surveyed accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (www.dakks.de).*

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf

# Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

The Deutsche Akkreditierungsstelle GmbH (DAkkS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkkS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkkS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

*This accreditation certificate is the property of the German Accreditation Body*

Deutsche Akkreditierungsstelle

# Annex to the Accreditation Certificate D-K-15076-01-01 according to DIN EN ISO/IEC 17025:2018

**Valid from:** **20.11.2025**

Date of issue: 20.11.2025

**This annex is part of the Accreditation Certificate D-K-15076-01-00.**

Holder of the Accreditation Certificate:

**Helmut Fischer GmbH Institut für Elektronik und Messtechnik**
**Industriestraße 21, 71069 Sindelfingen**

with the location

**Helmut Fischer GmbH Institut für Elektronik und Messtechnik**
**Industriestraße 21, 71069 Sindelfingen**

The calibration laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The calibration laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to the principles of DIN EN ISO 9001.

Calibration in the fields:

**Mechanical quantities**

- **Mass of unit area**

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**Permanent Laboratory**

Calibration and Measurement Capabilities (CMC)

| Measurement quantity / Calibration item | Range | Measurement conditions / procedure | Expanded uncertainty of measurement | Remarks |
|---|---|---|---|---|
| **Mass per unit area $m_A$**<br>A) Mean value of mass per unit area | 0.2 mg/cm² to 100 mg/cm² | OVA-DAkkS-02: 2024-10 (Version 14)<br>Measurement of:<br>- edge length<br>- 5 mm to 51 mm<br>- mass 100 µg to 5,1 g | $3.4 \cdot 10^{-5}$ mg/cm²<br>$+ 1.9 \cdot 10^{-4} \cdot m_A$ | $m_A$ = Measured mean value of mass per unit area<br>Best measurement capability U ($m_A$) for foils having a size of about 50 mm x 50 mm |
| B) Mass per unit area of single element layers (also multiple layers), as foils or on plane substrates | Single element layers:<br>0.002 mg/cm² to 100 mg/cm² | X-ray fluorescence method<br>OVA-DAkkS-02: 2024-10 (Version 14) | $5 \cdot 10^{-3} \cdot m_A$ | The determination of mass per unit area of single element layers, multiple layers and alloy layers refers to elements detectable with X-ray fluorescence analysis.<br>The uncertainty of measurements depends on both the layer material and the alloy composition.<br>The measurement range depends on both the layer material and the substrates.<br>The homogeneity is additionally measured and has to be considered for the uncertainty budget. |
| | Multiple layers:<br>0.01 mg/cm² to 100 mg/cm² | | $3.5 \cdot 10^{-2} \cdot m_A$ | |
| C) Mass per unit area of alloy layers and its mass fraction, as foils or deposited on flat substrates | 0.01 mg/cm² to 100 mg/cm²<br>(Mass per unit area)<br>1 g/kg to 1000 g/kg<br>(Mass fraction) | | $3.5 \cdot 10^{-2} \cdot m_A$<br>0.7 g/kg | |
| D) Mass fraction of all detectable elements of alloys with arbitrary thickness (flat, plane-parallel, homogeneous bulk samples) | 1 g/kg to 1000 g/kg | X-ray fluorescence method<br>OVA-DAkkS-02: 2024-10 (Version 14) | 0.14 g/kg | |

**Abbreviations used:**

| | |
|---|---|
| CMC | Calibration and measurement capabilities |
| DIN | Deutsches Institut für Normung e.V. – German institute for standardization |
| EN | Europäische Norm – European Standard |
| IEC | International Electrotechnical Commission |
| ISO | International Organization for Standardisation |
| OVA | internal calibration procedure of the Helmut Fischer GmbH Institut für Elektronik und Messtechnik |

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